

*The Correct Identity of Stator bixae (Drapiez)  
with Lectotype Designation (Coleoptera: Bruchidae)*

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ABSTRACT

Two species of Bruchidae, *Stator bixae* (Drapiez) from Brazil and French Guiana, and *S. championi* (Sharp) found from Costa Rica to Brazil, have been treated as 1 species. Both breed in seeds of *Bixa orellana* L. The 2 species are differentiated, and the lectotype of *S. bixae* is designated.

An examination of the type-specimens of *Stator bixae* (Drapiez) has revealed a misapplication of the name to a species now known as *Stator championi* (Sharp) described from Panama. A redescription of the true *bixae* and designation of the lectotype is presented, and characters distinguishing it from *championi* are given.

A number of references concerning the biology of "*Bruchus bixae*" appear in the literature, and these are discussed at the end of this paper.

*Stator bixae* Drapiez

*Bruchus bixae* Drapiez, 1820, p. 120; Gyllenhal in Schoenh. 1833, p. 32; Pic, 1913, p. 19; Everts, 1923, p. 199.

*Bruchidius bixae*: Herford, 1935, p. 16.

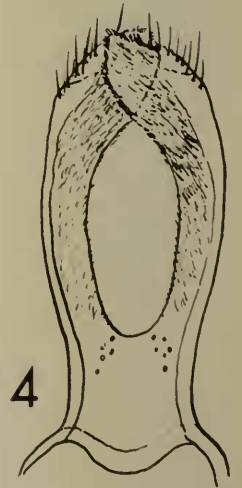
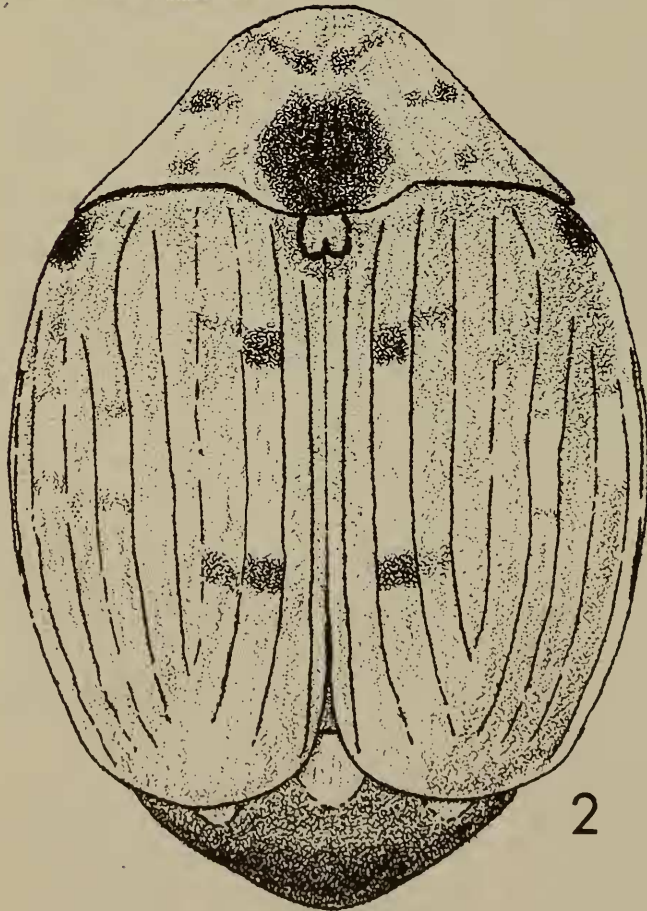
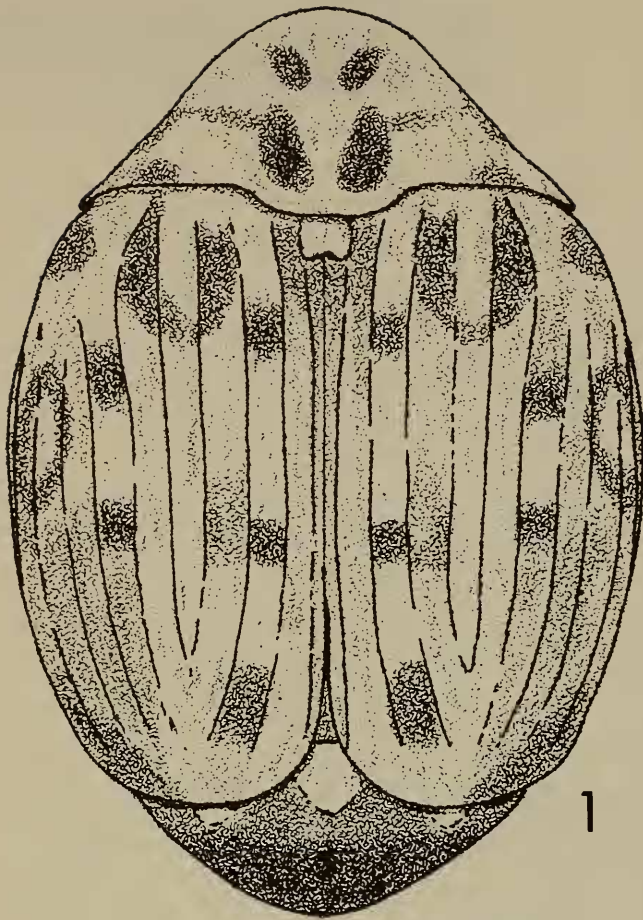
*Acanthoscelides bixae*: Blackwelder, 1946, p. 759.

Body length—2.5–2.75 mm; width—1.6–1.8 mm. Integument red to piceous, eyes black; vestiture of gray, golden, and dark brown fine setae in variable pattern (Figs. 1, 2).

Body subovate. Head subtriangular, eyes protruding, ocular sinus about one-third length of eye; frontal carina prominent, frons and clypeus finely punctate, frontoclypeal suture angulate;

segments 4–11 of antenna slightly eccentric. Postocular fringe narrow, postocular patch of setae present. Pronotum subconical, lateral margins straight, disk evenly convex, finely, evenly, punctate, slightly depressed basally on each side of and at middle of basal lobe, lateral carina present only in basal one-third, nearly hidden by vestiture. Scutellum subquadrate, emarginate apically. Elytra as long as wide; striae not distorted, shallowly sulcate, only 2nd and 6th reaching basal margin, 3rd, 4th and 5th beginning basally on a level with base of scutellum, striae not coalescent apically. Pygidium in both sexes subtriangular, with 3 large subbasal yellow-gray spots, vestiture between spots sparse, becoming denser toward apex. Front and middle legs unmodified; entire hind coxal face densely, finely punctate; hind femur bicarinate on ventral margin, sulcate between carinae, mesal carina with acute subapical spine preceded by 2 or 3 setose notches, lateral carina sinuate subapically; hind tibia stout, ventral carina ending in short, acute mucro, lateral carina ending in short spine, lateroventral carina ending in sinus between mucro and lateral spine.

Male genitalia (Figs. 3, 4): median lobe broad; ventral valve triangular, ending in small tubercle; internal sac armed with acute, flat denticles in basal ½, with slender spicules in 2 membranous lateral sacs, and scattered short denticles in apical half; apex cylindrical, armed with many fine spicules. Lateral lobes arcuate, flattened, expanded then attenuated apically.



*Stator bixae*: Fig. 1, dorsal habitus, fully developed pattern; fig. 2, dorsal habitus, teneral pattern; fig. 3, ♂ genitalia, median lobe, ventral view; fig. 4, ♂ genitalia, lateral lobes, ventral view.



*Type-locality*.—“Bresil.” Type-series (3) in the Institut Royal des Sciences Naturelles de Belgique, Brussels. Lectotype ♂ here designated with labels “Bresil,” “coll. Dejean, Coll. Roelofs,” “Bixae Hoffmanssegg” agreeing with original description. My label “Lectotype, *Bruchus bixae* Drapiez, by Kingsolver” is attached to this specimen. Paralectotypes: 2 ♀♀, same data as for lectotype, and my labels indicating their designation are attached.

*Sator bixae* is known only from Brazil and French Guiana, but *championi* is found from Brazil to Costa Rica. Both species apparently breed only in the seeds of *Bixa orellana* L. (Bixaceae), a dye and drug-producing plant locally called *annatto*, which has a geographical distribution (probably artificial) from Mexico to Brazil. Standley (1923) includes a discussion of the various uses of its vegetative parts. Bridwell’s biological notes (1923) apply to *championi* as determined by examination of his material in the United States National Museum of Natural History; and Champion’s notes (1923) probably pertain to *championi*; but Evert’s description (1923) indicates that he likely had *bixae*. Kingsolver (1970), in transferring the name *bixae* to *Sator*, used specimens now known to belong to *championi*, but the placement of both specific names in *Sator* is correct.

*Sator championi* can be distinguished from *bixae* by the broad, dark stripe bisecting the pronotal disk; the basal pygidial ornamentation of 3 white patches

of setae set in a yellow, transverse band; and the apical two-thirds of the pygidium being nearly glabrous except for a very narrow medial line of setae. The male genitalia are also distinctive.

I have examined 2 series of *S. bixae*. In both series, 2 patterns of dorsal markings appeared: 1 with an abbreviated elytral pattern combined with a large basal thoracic spot (Fig. 2), 2 with a more developed elytral pattern associated with paired thoracic spots (Fig. 1), as illustrated from the lectotype.

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